

ABSTRACT OF THE DISCLOSURE

A method of partially oxidizing an alcohol to an aldehyde or ketone comprises contacting a gas containing the alcohol with a solid catalyst containing molybdenum, preferably in a +6 oxidation state, and having a surface area of $10\text{ m}^2/\text{g}$ or higher, preferably $100\text{ m}^2/\text{g}$ or higher. The molybdenum is supported on a high surface area carrier. The alcohol is a primary or secondary alcohol and preferably contains from 1 to 6 carbon atoms. In a preferred embodiment, the alcohol is ethanol. NO_x emissions from an internal combustion engine can be lowered by combining the product of partial oxidation with the exhaust stream before passing the exhaust mixture through a lean NO_x catalyst. The partial oxidation product may be generated on board and injected into the exhaust under closed loop or open loop control